

ABSTRACT OF THE INVENTION

A method of using an interferometric confocal microscope to measure features of a trench or via in a substrate, wherein the interferometric confocal microscope produces a measurement beam, the method involving: focusing the measurement beam at a selected
5 location at or near the bottom of the trench or via to excite one or more guided-wave modes within the trench or via; measuring properties of a return measurement beam that is produced when the measurement beam is focused at the selected location, wherein the return measurement beam includes a component corresponding to a radiated field from the one or more guided-wave modes that are excited within the trench; and determining
10 the features of the trench or via from the measured properties of the return measurement beam.